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COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS.

U. S. DEPARTMENT OF AGRICULTURE
AND STATE AGRICULTURAL COLLEGES,
COOPERATING.

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BOYS' AND GIRLS' CLUB WORK.

HOW TO SET A HEN AND CARE FOR HER.

Prepared by the Animal Husbandry Division, Bureau of Animal Industry, United States Department of Agriculture.

The sitting hen should receive a certain amount of care and attention during the process of hatching eggs. To a great extent the care given the hen plays an important part in the number and condition of the chicks hatched.

HOW TO SET A HEN.

As the time approaches for the hen to become broody or sit, if care is taken to look into the nest it will be seen that a few soft, downy feathers are being left there by the hen; also that the hen stays longer on the nest when laying, and on being approached will very likely remain on the nest, making a clucking noise, ruffling her feathers, and pecking at the intruder. When it is noted that a hen sits on the nest from two to three nights in succession, and that most of the feathers are gone from her breast, which should feel hot to the hand, she is ready to be transferred to a nest which has been prepared for her beforehand. The normal temperature of a hen is from 106° to 107° F., which varies slightly during incubation. Dust the hen thoroughly with insect powder,[1] and in applying the powder hold the hen by the feet, the head down, working the powder well into the feathers, giving special attention to regions around the vent and under the wings. The powder should also be sprinkled in the nest. The nest should be in some quiet, out-of-the-way place, where the hen will not be disturbed. Move her from the regular laying nest at night, but handle her carefully in doing so. Put a china egg or two in the nest where she is to sit, and place a board over the opening so that she can not get off the nest. Toward the evening of the second day quietly go in where she is sitting, leave some feed and water, remove the board from the front or top of the nest, and let the hen come off when she is ready. Should she return to the nest after feeding, remove the china egg or eggs and replace them with the eggs that are to be incubated. If the nests are slightly darkened the hens

FIG. 1.—Testing eggs.

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[1] The best material for this purpose is sodium fluoride.

are less liable to become restless. At hatching time they should be confined and not disturbed until the hatch is completed, unless they become restless, when it may be best to remove the chicks that are hatched first. In cool weather it is best not to put more than 10 eggs under a hen, but later in the spring from 12 to 15 can be used, according to the size of the hen.

CARE OF THE SITTING HEN.

If several hens are sitting in the same room, see that they are kept on the nests, only allowing them to come off once a day to receive feed and water, the feed to consist of corn or wheat, or both. If there are any that do not voluntarily come off the nests, they should be taken off. Hens usually return to their nests before there is any danger of the eggs chilling, but if they do not go back in half an hour in ordinary weather they should be put back. Where a large number of sitters are kept in one room it is advisable to let them off in groups of from 4 to 6 at a time. The eggs and nests should be examined and cleaned, removing all broken eggs and washing those that are soiled; in the latter case the soiled nesting material should be removed and clean straw added. Nests containing broken eggs that the hen is allowed to sit on soon become infested with mites and lice, which cause the hens to become uneasy and leave the nest, often causing the loss of valuable sittings of eggs. In mite-infested nests, the hen, if fastened in, will often be found standing over rather than sitting on the eggs. Many eggs that are laid in the late winter and early spring are infertile. For this reason it is advisable to set several hens at the same time. After the eggs have been under the hens from 5 to 7 days, the time depending somewhat on the color and thickness of the shells—white-shelled eggs being easier to test than those having brown shells—they should be tested, the infertile eggs and those with dead germs removed, and the fertile eggs put back under the hen. In this way it is often possible to put all the eggs that several hens originally started to sit on under fewer hens and reset the others. For example, 30 eggs are set under 3 hens at the same time, 10 under each. At the end of seven days, on testing the eggs from all the hens it is found that 10 are infertile, which leaves 20 eggs to reset. These are put under 2 hens, and a new sitting of 10 eggs placed under the third hen. Thus considerable time can be saved in hatching operations.

METHOD OF TESTING EGGS.

An egg, whether fertile or not, has a small grayish spot on the surface of the yolk, known as the "germinal" spot. As soon as a fertile egg is placed under a hen or in an incubator, development begins. All eggs should be tested at least twice during the period of incubation, preferably on the seventh and fourteenth days, and the infertile eggs and those with dead germs removed. White eggs can be tested on the fourth or fifth day, whereas the development in eggs having brown shells often can not be seen by the use of an ordinary egg tester until the seventh day.

A good homemade egg tester, or candler, can be made with a large shoe box, or any box that is large enough to go over a lamp, by removing the end and cutting a hole a little larger than the size of a quarter in the bottom of the box, so that when it is set over a kerosene lamp the hole in the bottom will be opposite the flame (see fig. 1). A hole should be made in the top of the box of sufficient size so that the cardboard will not extend over the opening of the chimney. If the chimney is long enough it should be allowed to stick out of the top of the box, to allow the heat to escape and prevent the danger of fire. Special care should always be exercised in using kerosene lamps to avoid the danger of fire.

Most incubator manufacturers furnish testing chimneys with their machines which will fit the incubator lamps. Electric or gas lamps may be used in a box with a hole slightly smaller than an egg cut in the side of the box and at the same level as the light. The eggs may also be tested by sunlight, or daylight, using a shutter or curtain with a small hole in it for the light to shine through.

The eggs are tested with the large end up, so that the size of the air cell may be seen (see fig. 2), as well as the condition of the embryo. The testing should take place in a dark room. An infertile egg when held before the small hole with the lamp lighted inside the box will look perfectly clear, the same as a fresh one, while a fertile egg will show a small dark spot, known as the embryo, with a mass of little blood veins extending in all directions if the embryo is living; if dead, and the egg has been incubated for at least 48 hours, the blood settles away from the embryo toward the edges of the yolk, forming in some cases an irregular circle of blood, known as a blood ring. Eggs vary in this respect, some showing only a streak of blood. All infertile eggs and those with dead germs should be removed at the first test. Dead germs soon decay and give off a bad odor if allowed to remain. Infertile eggs make good feed for young chickens, and are often used in the home for cooking purposes. At the second test (on the fourteenth day) the eggs containing strong, living embryos will be dark and well filled up, showing a clear, sharp, distinct line of demarcation between the air cell and the growing embryo, while eggs with dead germs will show only partial development, and lack this clear, distinct outline.

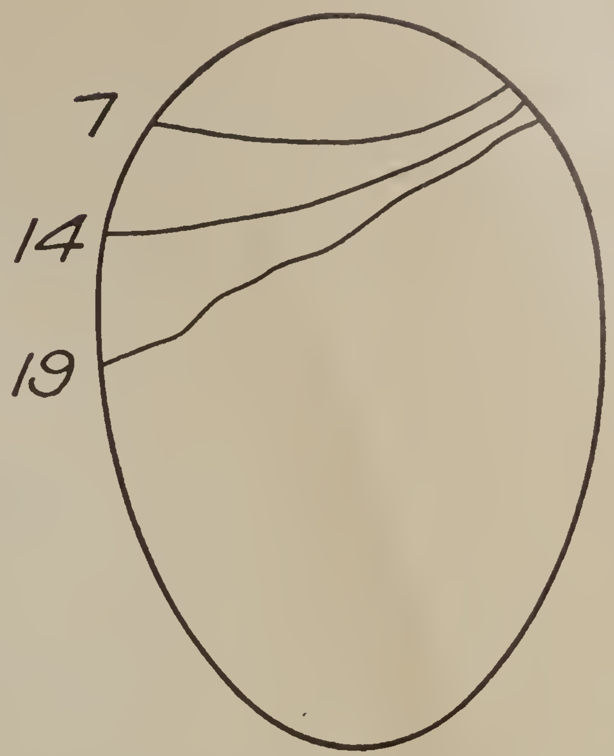

FIG. 2.—Diagram showing the air cell on the seventh, fourteenth, and nineteenth day of incubation.

NOTE.—This is one of a series of follow-up circulars (the K series) printed for the exclusive use of club members and club leaders. Other persons desiring poultry literature should write to their State agricultural college or ask for bulletins noted below.

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